UNITED STATES PATENT AND TRADEMARK OFFICE

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *17 November 2003*.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-8* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☐ Claim(s) *1-5,7 and 8* is/are rejected.

7) ☐ Claim(s) *6* is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on *17 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date *11/17/2003*.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

DETAILED ACTION

Priority

1.   Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which

papers have been placed of record in the file.

Information Disclosure Statement

2.   The information disclosure statement (IDS) submitted on 11/17/03 has been

considered by the examiner.

Claim Rejections - 35 USC § 101

3.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

4.   Claim 8 is rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter.

        Regarding claim 8 is drawn to functional descriptive material embodied on a

computer readable medium (i.e., "data structures and computer programs which impart

functionality when employed as a computer component" at MPEP 2106.IV.B(1)).

However, the program/algorithm itself merely manipulates data or an abstract idea, or

merely solves a mathematical problem without a limitation to a practical application in

the technological arts. MPEP 2106.IV.B.2(a) (Statutory Product Claims) states:

"A claim limited to a ... manufacture, which has a practical application in the

technological arts, is statutory."

In order for a claimed invention to accomplish a practical application, it must

produce a "useful, concrete and tangible result" *State Street,* 149 F.3d at 1373, 47

USPQ2d at 1601-02 (see MPEP 2106.II.A). Currently, the claim does not recite a

practical application. In order to for the claimed product to produce a "useful, concrete

and tangible" result, recitation of one or more of the following elements is suggested:

- The manipulation of data that represents a physical object or activity

transformed from outside the computer (MPEP 2106 IVB2(b)(i)).

- A physical transformations outside the computer, for example in the form

of pre or post computer processing activity (MPEP 2106 IVB2(b)(i)).

- A direct recitation of a practical application in the technological arts (MPEP

2106 IVB2(b)(ii)).

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6.   Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Sako

(US 2002/0006218).

Regarding claim 1, Sako '218 discloses an image arrangement method, comprising:

a first area calculation step of calculating a total sum of the areas of images (i.e., the first arrangement calculation unit 163 performs an arrangement calculation to arrange the plural collected images in the output area in the default direction, vertical disposition; page 7, paragraph [0159]), of a plurality of images (fig. 16), that are contained in a sheet of paper in a first arrangement (i.e., the first arrangement calculation unit 163 performs an arrangement calculation for arranging the plural collected images in the output area in the direction B, page 7, paragraph [0169], fig. 18);

a second area calculation step of calculating a total sum of the areas of images (i.e., the calculation at this step provides a significant result only when an image runs over an output area, page 7, paragraph [0176]), of a plurality of images (fig. 19), that are contained in the sheet of paper in a second arrangement different from the first arrangement (i.e., the second arrangement calculation unit 164 calculates an image runover quantity 2B in the output area in the direction B, horizontal disposition; page 8, paragraph [0184]);

an image arrangement step of arranging images in the sheet of paper in an arrangement that is adopted when the larger one of the total sums calculated in the first and second area calculation steps is calculated (i.e., capable of arranging an image in the output area even when only one image is to be arranged in the output area and

effective even in a case, for example, where an image is too large for arrangement in the output area; see page 9, paragraph [0225], fig. 20).

Regarding claim 2, Sako '218 discloses the image arrangement method, wherein the first area calculation step is to calculate a total sum of the areas of images (i.e., the first arrangement calculation unit 163 performs an arrangement calculation to arrange the plural collected images in the output area in the default direction, vertical disposition; page 7, paragraph [0159]), of a plurality of images (fig. 16), of the plurality of images (fig. 16), that are contained in the sheet of paper in the first arrangement (i.e., the first arrangement calculation unit 163 performs an arrangement calculation for arranging the plural collected images in the output area in the direction B, page 7, paragraph [0169], fig. 18), the first arrangement resulting from arranging the plurality of images in the sheet of paper sequentially in a first order according to a predetermined algorithm (i.e., the image arrangement unit 166 first judges whether or not image arrangement is possible on the arrangement result 1A for the output area in the default direction A (vertical disposition) see page 9, paragraph [0214], fig. 13, Step S431),

the second area calculation step is to calculate a total sum of the areas of images (i.e., the calculation at this step provides a significant result only when an image runs over an output area; page 7, paragraph [0176]), of the plurality of images (fig. 19), that are contained in the sheet of paper in the second arrangement (i.e., the second arrangement calculation unit 164 calculates an image runover quantity 2B in the output

area in the direction B, horizontal disposition; page 8, paragraph [0184]), the second

arrangement resulting from arranging the plurality of images in the sheet of paper

sequentially in a second order different from the first order according to the

predetermined algorithm (i.e., the image arrangement unit 166 arranges the images in

the output area on the basis of the arrangement result 1B for the horizontal disposition;

page 9, paragraph [0218], fig. 13, Step S433).

Regarding claim 3, Sako '218 discloses the image arrangement method, wherein,

if an image extends off the sheet of paper when the plurality of images are arranged in

the sheet of paper in the first order, the second order adopted in the second area

calculation step to calculate the total sum is that the extending-off image is placed first

in the sheet (i.e., the image arrangement unit 166 determines an efficient image

arrangement on the basis of the arrangement results 1A and 1B obtained with the first

arrangement calculation unit 152 and the runover quantities 2A and 2B obtained with

the second arrangement calculation unit 153, and actually arranges the images

according to a determined result; see page 4, paragraph [0084]).

Regarding claim 4, Sako '218 discloses the image arrangement method, wherein

the algorithm is that each of the plurality of images is sequentially arranged in the sheet

of paper so that the remaining blank area can accommodate a possible largest

rectangle (i.e., the area direction instruction unit 162 is capable of inputting information

of a horizontal disposition or a vertical disposition of the film which is the output

destination of the output area. Therefore, perform image arrangement in the

rectangular region; page 4, paragraph [0081], fig. 15).

Regarding claim 5, Sako '218 discloses the image arrangement method, wherein

the first area calculation step is to calculate a total sum of the areas of images (i.e., the

first arrangement calculation unit 163 performs an arrangement calculation to arrange

the plural collected images in the output area in the default direction, vertical disposition;

page 7, paragraph [0159]), of the plurality of images (fig. 16), that are contained in the

sheet of paper in the first arrangement (i.e., the first arrangement calculation unit 163

performs an arrangement calculation for arranging the plural collected images in the

output area in the direction B, page 7, paragraph [0169], fig. 18), the first arrangement

resulting from arranging the plurality of images in the sheet of paper sequentially in a

predetermined order according to a first algorithm (i.e., the image arrangement unit 166

first judges whether or not image arrangement is possible on the arrangement result 1A

for the output area in the default direction A (vertical disposition) see page 9, paragraph

[0214], fig. 13, Step S431),

the second area calculation step is to calculate a total sum of the areas of

images (i.e., the calculation at this step provides a significant result only when an image

runs over an output area; page 7, paragraph [0176]), of the plurality of images (fig. 19),

that are contained in the sheet of paper in the second arrangement (i.e., the second

arrangement calculation unit 164 calculates an image runover quantity 2B in the output

area in the direction B, horizontal disposition; page 8, paragraph [0184]), the second

arrangement resulting from arranging the plurality of images sequentially in the sheet of

paper in the predetermined order according to a second algorithm different from the first

algorithm (i.e., the image arrangement unit 166 arranges the images in the output area

on the basis of the arrangement result 1B for the horizontal disposition; page 9,

paragraph [0218], fig. 13, Step S433).

Regarding claim 7, Sako '218 discloses an image arrangement device (160, fig.

2), comprising:

a first area calculation section that calculates a total sum of the areas of images

(i.e., the first arrangement calculation unit 163 performs an arrangement calculation to

arrange the plural collected images in the output area in the default direction, vertical

disposition; page 7, paragraph [0159]), of a plurality of images (fig. 16), that are

contained in a sheet of paper in a first arrangement (i.e., the first arrangement

calculation unit 163 performs an arrangement calculation for arranging the plural

collected images in the output area in the direction B, page 7, paragraph [0169], fig. 18);

a second area calculation section that calculates a total sum of the areas of

images (i.e., the calculation at this step provides a significant result only when an image

runs over an output area, page 7, paragraph [0176]), of a plurality of images (fig. 19),

that are contained in the sheet of paper in a second arrangement different from the first

arrangement (i.e., the second arrangement calculation unit 164 calculates an image

runover quantity 2B in the output area in the direction B, horizontal disposition; page 8, paragraph [0184]);

an image arrangement section that arranges images in the sheet of paper in an arrangement that is adopted when the larger one of the total sums calculated by the first and second area calculation sections is calculated (i.e., capable of arranging an image in the output area even when only one image is to be arranged in the output area and effective even in a case, for example, where an image is too large for arrangement in the output area; see page 9, paragraph [0225], fig. 20).

Regarding claim 8, Sako '218 discloses an image arrangement program storage medium that stores an image arrangement program, the image arrangement program comprising:

a first area calculation section that calculates a total sum of the areas of images (i.e., the first arrangement calculation unit 163 performs an arrangement calculation to arrange the plural collected images in the output area in the default direction, vertical disposition; page 7, paragraph [0159]), of a plurality of images (fig. 16), that are contained in a sheet of paper in a first arrangement (i.e., the first arrangement calculation unit 163 performs an arrangement calculation for arranging the plural collected images in the output area in the direction B, page 7, paragraph [0169], fig. 18);

a second area calculation section that calculates a total sum of the areas of images (i.e., the calculation at this step provides a significant result only when an image

runs over an output area, page 7, paragraph [0176]), of a plurality of images (fig. 19),

that are contained in the sheet of paper in a second arrangement different from the first

arrangement (i.e., the second arrangement calculation unit 164 calculates an image

runover quantity 2B in the output area in the direction B, horizontal disposition; page 8,

paragraph [0184]);

an image arrangement section that arranges images in the sheet of paper in an

arrangement that is adopted when the larger one of the total sums calculated by the first

and second area calculation sections is calculated (i.e., capable of arranging an image

in the output area even when only one image is to be arranged in the output area and

effective even in a case, for example, where an image is too large for arrangement in

the output area; see page 9, paragraph [0225], fig. 20).

Allowable Subject Matter

7.   Claim 6 is objected to as being dependent upon a rejected base claim, but would

be allowable if rewritten in independent form including all of the limitations of the base

claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject

matter:

Regarding claim 6, the prior art fails to show the image arrangement method

further comprises:

a third area calculation step of calculating a total sum of the areas of images, of

the plurality of images, that are contained in the sheet of paper in a third arrangement,

the third arrangement resulting from arranging the plurality of images in the sheet of

paper sequentially in the first order according to a second algorithm different from the

first algorithm;

a fourth area calculation step of calculating a total sum of the areas of images, of

the plurality of images, that are contained in the sheet of paper in a fourth arrangement,

the fourth arrangement resulting from arranging the plurality of images in the sheet of

paper sequentially in the second order according to the second algorithm,

the area arrangement step is to arrange the images in the sheet of paper in an

arrangement that is adopted when the largest one of the total sums calculated in the

first, second, third and fourth area calculation steps is calculated.

Conclusion

8.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

Yamada et al. (US 4,338,636) discloses method for reproducing pictures from

original pictures depending on the desired layout.

Bubie et al. (US 6,453,078) discloses selecting, arranging, and printing digital

images from thumbnail.

Kobori et al. (US 5,109,281) discloses video printer with separately stored digital signals printed in separate areas to form a print of multiple images.

Fujiwara et al. (US 2002/0028020) discloses image processing device, image processing method, and image processing program.

Hirosawa et al. (US 4,823,289) discloses positioning originals on an original scanning drum of an image reproducing system.

9.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen H. Nguyen whose telephone number is 571-270-1229. The examiner can normally be reached on M-F from 9:00 AM-6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, King Poon can be reached on (571)-272-7440. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AN

07/18/07

KING Y. POON
~~PRIMARY~~ EXAMINER

Supervisory Patent